

Guidelines for Wildlife Design in Residential Developments. DFG Habitat Protection Section, 1979.

Maintenance of the hydrologic system. The quality of anadromous fish streams of the Kashwitna Unit and of the overall hydrologic system -- lakes, tributaries, wetlands and groundwater - should be preserved at a level which: 1) supports sportfishing effort at current or increased levels of human use; and 2) provides a contribution of salmon to the Cook Inlet commercial salmon fishery equal to the average over the last five years.²

Management by general habitat type. The state and borough will strive to protect and enhance the diversity of habitat types occurring in the Willow Sub-basin. Consideration must be given to the overall pattern of lands preserved for fish and wildlife production as well as the qualities of specific sites. Wherever possible, habitat lands shall be linked through migration corridors, river corridors, and buffers.

Life history of species. Land management practices should be designed to minimize impacts on species during critical portions of their life histories, such as moose calving or fish overwintering areas). The borough and state should consult with DFG to develop plans for mitigating impacts during these periods.

FORESTRY

Susitna Forestry Guidelines apply. Susitna Forestry Guidelines will apply to the Kashwitna area. Additional guidelines specific to the Kashwitna Management Plan follow.

Six timber sales have occurred in Subunit b and one in Subunit c (see Map 3):

<i>Sale #</i>	<i>Size (acres)</i>	<i>Length of sale</i>
1255	320	5 yr (expires 4-13-92)
1310	320	4 yr
1311	320	5 yr
1312	160	4 yr
1314	960	5 yr
1368	160	2 yr
1369	160	2 yr
Total	2,400	

Timber base. The estimated area available for sustained yield timber management is summarized in Tables 4 and 5. On state land, about 11,290 to 11,980 acres of high site forest land and 8,260 to 9,040 acres of low site forest land are available without special conditions. On borough land, about 2,590 to 2,660 acres of high site forest and 1,340 acres of low site forest are available.

The timber base excludes areas where timber harvesting is prohibited or is a conditional use. Timber harvest is prohibited on land within 100 feet of anadromous and high value fish waterbodies, and at trailhead recreation sites, in the Willer-Kash Road buffer, and in the 60' right-of-way that would be cleared along new roads. Rights-of-way would be harvested once, but would not be available for continued management. See guidelines for Harvesting along Waterbodies and Willer-Kash Road management in this section.

²Effort is measured in angler-days. Current effort is the mean annual effort from 1985-1990.

Table 4: Estimated timber base on state land in the Kashwitna Unit

Gross Area	High Site Forest Land	Low site Forest Land	Total
State land in subunits a and b and in Subunit c outside agricultural homestead parcels ¹	13,900 acres	10,030 acres	23,930 acres
Prohibited areas			
Within 100' of waterbodies ²	160-370 acres	200-450 acres	360-820 acres
Trailhead recreation sites (sites # 1 and # 3)	40 acres	0	40 acres
Within 380' of the Willer-Kash Road	760 acres	130 acres	890 acres
Within cleared ROW of roads ³	140-150 acres	30-50 acres	170-200 acres
TOTAL in prohibited areas	1,100-1,320 acres	360-630 acres	1,460-1,950 acres
Conditional harvest areas			
Within 150' of trails ²	120-160 acres	160-170 acres	280-330 acres
100'-300' from waterbodies ²	320-750 acres	400-900 acres	720-1,650 acres
Willer-Kash Road special management zone (170') map 3	380 acres	70 acres	450 acres
Unsold agricultural parcels in subunit c	0-350 acres	0-230 acres	0-580 acres
TOTAL in conditional areas	820-1,640 acres	630-1,370 acres	1,450-3,010 acres
NET AREA (outside prohibited and conditional areas)	11,290 -11,980 ac	8,260-9,040 ac	19,550-21,020 ac

¹These figures include 130 acres of high site forests and 500 acres of low site forests in subunit c outside of designated agricultural parcels. Forests on these lands will be managed for personal use.

²Some streams have not been surveyed to determine whether or not they support anadromous or high value resident fish. If streams are surveyed in the future and do not have these fish, the area near streams where timber harvesting is prohibited will decrease.

³Rights-of-way include the 100' right-of-way for the Willer-Kash Road. The range in acreage reflects the alternative routes for Route F. The options for Route F also affect the length of the Willow Creek Mountain Trail affected by the trail buffer guidelines. See the section on Roads, Trails and Public Access -- Route F in this chapter for a description of Route F options.

Table 5: Estimated timber base on borough land in the Kashwitna Unit

Gross Area	<i>High Site Forest Land</i>	<i>Low site Forest Land</i>	<i>Total</i>
Borough land in subunits a and b and in Subunit c outside agricultural homestead parcels	2,820 acres	1,390 acres	4,210 acres
Prohibited areas			
Forest land within 100' of waterbodies ⁴	0-20 acres	0	0-20 acres
Forest land within cleared ROW of roads ⁵	20 acres	0	20 acres
TOTAL land in prohibited areas	20-40 acres	0	20-40 acres
Conditional harvest areas			
Land within 150' of trails ²	80 acres	50 acres	130 acres
Land 100'-300' from waterbodies ²	0-50 acres	0	0-50 acres
Lakeside recreation site (site #2)	60 acres	0	60 acres
TOTAL land in conditional areas	140-190 acres	50 acres	190-240 acres
NET AREA (outside prohibited and conditional areas)	2,590 -2,660 ac	1,340 ac	3,930-4,000 ac

⁴Some streams have not been surveyed to determine whether or not they contain anadromous or high value resident fish. If streams are surveyed in the future and determined not to have these fish, the area near streams where timber harvesting is prohibited will decrease.

⁵Rights-of-way include the 100' right-of-way for the Willer-Kash Road. The range in acreage reflects the alternative routes for Route F. The options for Route F also affect the length of the Willow Creek Mountain Trail affected by the trail buffer guidelines. See the section on Roads, Trails and Public Access -- Route F in this chapter for a description of Route F options.

Based on averages for the Susitna Basin, this area would contain approximately 11-13 million cubic feet of timber and the borough has about 2-2.5 million cubic feet. However, volumes in this area may be higher than the average. Local timber inventory is necessary to accurately determine the volume. (See Chapter 2, Forestry for a discussion of timber volume estimates.)

An additional 1,450-3,010 acres are in conditional harvest areas on state lands and 190-240 acres on borough lands. These areas may be available for sustained yield management, but special guidelines are likely to reduce the amount of timber available. They include land along trails, in the lakeside recreation site in Subunit a, in the special management zone along the Willer-Kash Road, and next to stream buffers. See guidelines for Harvesting along Waterbodies and Willer-Kash Road management in this section, and Recreation Site # 2 in the Recreation section of this chapter.

Active management could increase productivity, which would increase the volume available from this acreage.

In addition to this sustained yield timber base, one-time harvests may be available from land cleared for agricultural homesteads and roadways. Sustained yield timber management on private lands could also contribute a small amount to the timber available.

Timber sale schedule. Additional sales will be held in subunits a and b during or after 1992. New sales will be designed and scheduled through the DNR Division of Forestry five-year timber sale scheduling process. Forest Management Reports will be prepared for each sale. The five-year schedule of timber sales and Forest Management Reports require public and interagency review. Timber sales must appear on the 5-year timber sale schedule for at least two years prior to sale. Scheduling for personal use areas will follow the same scheduling process as commercial sales.

Development of the Forest Industry. Scheduling and type of timber contracts should be designed to aid the growth of a commercial forest industry in the area.

1. The borough and the state will coordinate the schedule for timber sales on state and borough lands.
2. Timber contracts on state land should generally be let through commercial bid sales rather than negotiated sales.

Reforestation. The Forest Practices Act requires regeneration of harvested areas within seven years after harvest. The Susitna Forestry Guidelines direct that site preparation be used to ensure adequate regrowth. These provisions apply to the Kashwitna Unit.

The DNR Division of Forestry's Five-Year Schedule of Timber Sales also proposes replanting up to 75 acres between 1991 and 1995. Replanting would occur on land that has been harvested for personal use timber. Plantings would include lodgepole pine, Scots pine, and Siberian larch. The primary intent of the plantings is research. The plantings will provide information on growth rates and survival of the introduced species, feasibility of growing pines for Christmas trees, and the cost of using plantings for reforestation. This planting program is not intended to convert large areas to exotic tree species.

Joint Forestry/Habitat Management Areas. All the subunits have important forestry and wildlife values. Forest operations will be directed toward the combined goals of forest management, habitat enhancement and recreational opportunity availability. The DNR Division of Forestry will consult with DFG during development of the sale schedule on how to provide opportunities for moose browse enhancement and minimize negative impacts to fish and wildlife populations.

Harvesting along Waterbodies. The Forest Practices Act prohibits timber harvesting within 30 meters (100') of anadromous and high value resident fish waterbodies. It also requires that harvesting 30-90 meters (100-300') from these waterbodies be designed to maintain important fish and wildlife habitat. The Susitna Forestry Guidelines set guidelines for timber harvesting in this 30-90 meter zone.

Harvesting along Little Willow Creek. Vegetation management (including timber harvest) is allowed within 1/4-mile of Little Willow Creek only to maintain or enhance wildlife habitat, recreation, or to prevent or control outbreaks of insects, disease, wildfire, or hazards to public safety. The Department of Fish and Game and the DNR Division of Parks and Outdoor Recreation will be consulted on the design of vegetation management projects in this zone. Vegetation management by DNR will be designed and conducted with due deference to the Department of Fish and Game. Most of this land is within the Little Willow Creek unit of the Willow Subbasin Area Plan, but small areas in Kashwitna subunits a and b are within 1/4-mile of the creek.

Notification of salmon spawning. DOF will notify DFG of the location of spawning salmon seen during field work.

Wetlands. Winter access only should be used in or across wetlands whenever feasible. Timber harvest is allowed adjacent to wetlands, but only single-tree selective timber harvest will generally be permitted within 100 feet of Class I and II wetlands. Other harvesting techniques such as seed-tree harvesting or clearcutting are permitted if necessary to prevent or control outbreaks of insects, disease, wildfire, or hazards to public safety. This guideline may be changed for specific locations by DNR with the consultation of DFG. See Glossary, Appendix A for the Class I and II wetland definition.

Trail Protection. Trail corridors designated in this plan are available for personal and selective commercial timber harvest only if such harvests protect or enhance the visual, sound, and other characteristics of the trail. Harvest practices, timing and transportation must be coordinated with the DNR Division of Parks and Outdoor Recreation. Unless otherwise noted, trail corridors extend 150 feet from trail centerline (300 feet, total width).

Willer-Kash Road management. To provide wildlife cover and protect scenic values along the Willer-Kash Road, a buffer zone and special management zone exist along the road.

A *buffer zone* to provide wildlife cover, provide recreation opportunities, and protect visual quality exists along the road. The buffer extends 380' from the centerline of the road (330' from the edge of the right-of-way). This distance is reserved to provide hiding cover and travel corridors for moose and other wildlife, and to provide visual screening between cutting areas and the road.

Vegetation management (including timber harvest) is allowed within the buffer only to maintain or enhance wildlife habitat, recreation, or visual quality; to clear the right-of-way for transportation and public safety; or to prevent or control outbreaks of insects, disease, wildfire, or hazards to public safety. For example, trees could be cut to open scenic vistas and increase visual diversity along the road. The Department of Fish and Game and the DNR Division of Parks and Outdoor Recreation will be consulted on the design of vegetation management projects in this zone. Vegetation management by DNR will be designed and conducted with due deference to the Department of Fish and Game.

Land adjacent to the buffer is important for additional wildlife cover and public use. A *special management zone* next to the buffer will be managed to provide cover, minimize the attraction of game to the road, minimize displacement of wildlife, and provide diverse recreational settings. This zone extends 170' from the edge of the road buffer. DOF will

design timber harvests in this area in consultation with the Department of Fish and Game and the Division of Parks and Outdoor Recreation.

The buffer zone and special management zone will be reviewed when the plan is updated. In the interim, DFG should monitor the road, the buffer, and the special management zone. The monitoring program should estimate the number of users along the road, determine the amount of hunting along the road, and compare the success rates of hunters along this road with those of hunters in other road-accessible areas.

Harvesting in Subunit c. Small amounts of land will remain public between agricultural homesteads in Subunit c (see Map 6). Timber on these public lands will be available for personal use harvesting only. If any of the proposed agricultural homestead parcels are not sold, larger blocks of land may remain public. Timber on unsold parcels may be harvested for either personal or commercial use.

GRAZING

The guidelines in this section are the Range Management Plan for Kashwitna area.

The goals for grazing in this area are:

1. Use and manage grazing resources in the Kashwitna area on a sustained yield basis as a permanent source of supplementary forage for on-farm hayland and cropland for the dairy and red-meat industry, and for agricultural homesteads.
2. Preserve the integrity of the ecosystem to allow long-term management of forest, habitat, and grazing resources.
3. Minimize conflicts between domestic livestock and wildlife.
4. Manage grazing to be compatible with the primary uses. Forestry and Fish and Wildlife Habitat are the primary uses in Subunit b; Agriculture is the primary use in Subunit c. Grazing is a secondary use in these subunits. Forestry and wildlife habitat are the primary uses in Subunit a. Grazing is not a designated use in this subunit. The guidelines in this section and the grazing operating plan for each permit or lease will be used to ensure that grazing is compatible with the primary uses.

Authorization Requirements

Permit or lease required. All grazing of domestic livestock on state lands shall be authorized by a permit or lease. Permits are not required for incidental grazing use that is generally allowed on state land, such as horse travel.

Compatibility with primary uses. Authorizations for grazing are allowed in subunits b and c only when DNR determines that grazing is compatible with the primary uses.

Permits and leases. Authorizations in Subunit c and in those portions of Subunit b shown on Map 7 may be by permits or leases. Grazing will be authorized only by permit in the remaining areas of Subunit b. Grazing generally supports the agricultural activities planned for Subunit c. Those portions of Subunit b where leasing is allowed are areas where conflicts with habitat and timber management are likely to be less significant based on current information on moose distribution and vegetation type. Permit-only areas are lands where grazing is more likely to conflict with active timber and habitat management, largely closed hardwood and open white spruce forest lands.

Length of authorization. Permits may be issued for up to five years; leases may be issued for up to 10 years.